

Abstract

A fuel injection valve with a valve body (1), in which a valve needle (5) that has a longitudinal axis (15) can slide in the longitudinal direction in a bore (3). The combustion chamber end of the bore (3) is provided with a conical valve seat (11); between the valve needle (5) and the wall of the bore (3), a pressure chamber (19) is formed, which can be filled with fuel and extends to the valve seat (11). The valve needle (5) has a valve sealing surface (7) that cooperates with the valve seat (11) in order to control at least one injection opening leading from the valve seat (11) and contains an annular groove (35) that extends in a radial plane of the valve needle (5). The downstream edge of the annular groove (35) is embodied as a sealing edge (38), and is hydraulically connected to the pressure chamber (19) on a continuous basis (Fig. 2).